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PHOTOGRAPHIC INTERPRETATION REPORT

CHRONOLOGY OF
LENINGRAD ARMAMENTS AND TANK PLANT
BOLSHEVIK 232
USSR

FEBRUARY 1968
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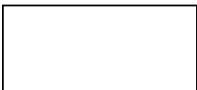
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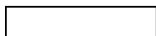
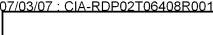
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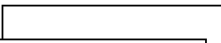
PHOTOGRAPHIC INTERPRETATION REPORT

CHRONOLOGY OF LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232 USSR

FEBRUARY 1968

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INTRODUCTION

This report is a chronological study of the Leningrad Armaments and Tank Plant Bolshevik 232 [REDACTED]

[REDACTED] The plant is located on the west bank of the Neva River in southeastern Leningrad, USSR, approximately 6 nautical miles from the center of the city at 59-52N 030-29E (Figure 1). All plant buildings are contained in an area measuring 6,000 by 2,000 feet at the widest points and covering a total of approximately 225 acres (Figures 2 and 3). The area is walled on 3 sides, the unwalled east side fronting on the Neva River. Rail transportation is provided by a spur extending to the plant from the main rail line to Leningrad, and the river makes the plant accessible to water transportation. Part or perhaps all electric power needs may be supplied by the Leningrad Thermal Power Plant Krasnyy Oktyabr Bres 5 [REDACTED] which is located directly across the river from the plant.

Collateral sources state that Plant 232 has been in existence since before the Russian Revolution of 1917, with some of the buildings dating back to 1885. 1/ Collateral information on production dates from 1940 and extends through 1956. There is evidence that the plant was involved in gun production, apparently with emphasis on naval weapons during the entire 1940-1956 period. Other production reportedly has included forgings, castings, gears for tractors, special steels, and equipment for the petroleum industry. 2/

Collateral information has indicated that the Leningrad Plant 232 has a branch in Vladivostok which has been involved in the past with the installation and repair of naval guns (on ships and for coastal defense) in the Soviet Far East. In addition, there is past evidence that Plant 232 has had related establishments on the Black Sea, the Baltic Sea, and possibly the White Sea. 1/ These relationships suggest that Plant 232 may be a headquarters for certain naval weapons systems.

Recent collateral information suggests that Plant 232 is involved in the Soviet Guided Missile Program. 3/ Photographic evidence of extensive new construction and renovations in the southern half of the plant in recent years suggest that sections of Plant 232 may have been adapted to a new type of production. A high-bay probable assembly building (item 100, Figure 2) and a probable fabrication/assembly building with a possible checkout tower [REDACTED] in height (item 98) further define the probable new type of production

as possibly missile related. Ground photography of the possible checkout tower (item 98) and the high-bay probable assembly building (item 100) is presented on Figure 4. A ground photo partial view and a perspective drawing of the probable fabrication/assembly building with the possible checkout tower is presented on Figures 5 and 6 respectively.

The construction chronology of Plant 232, derived from all available photography, is presented in Table 1 and Figure 2. This table also provides functional designations or descriptions and dimensions of the principal structures. Measurements are accurate within plus-or-minus 10 feet or 10 percent, whichever is greater. The numbered items in the table are keyed to the line drawing on Figure 2 and to selected items on the ground photographic mosaic, Figure 4. Highlights of the chronology are presented in narrative form in the following section of this report.

Photographic coverage used in developing this chronology spans a period of 25 years, [REDACTED]

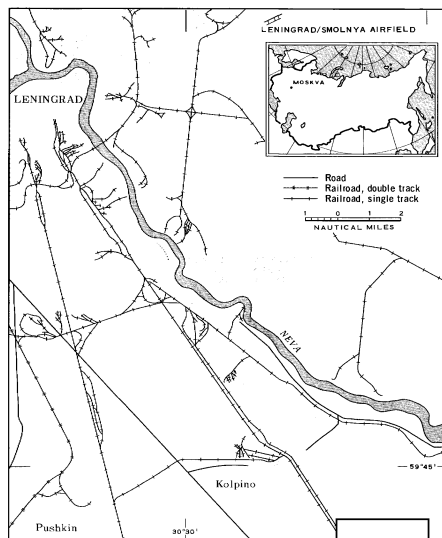


FIGURE 1. LOCATION MAP.

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[REDACTED] (Figure 7), and [REDACTED] Figure 8) photography. The small scale of some of the photography, nonstereo coverage in some instances, and limiting conditions such as snow, haze, and shadows have inhibited interpretation of some details of the plant. Roads, rail spurs, and pipelines have been depicted on Figure 2 in the maximum detail permitted by the photography; however, no attempt has been made to compile a chronology of these features because of the poor interpretability of much of the coverage.

Roof coverage of Plant 232 added or renovated since [REDACTED] comprises approximately 33 percent of the [REDACTED] total roof coverage of 2,992,680 square feet. Roof cover added during each color-coded time period includes 253,325 square feet for the [REDACTED] for the [REDACTED] period, and 44,080 square feet still under construction in [REDACTED]. In addition, approximately 25 acres have been added to the plant grounds since [REDACTED]

CHRONOLOGICAL HIGHLIGHTS

1942 - 1956

The earliest available photographic coverage of Plant 232 is [REDACTED]. This photography is presented on Figure 8 for purposes of comparing the status of the plant in 1942 with its status in 1967 as shown on [REDACTED] photography, Figure 3. Collateral sources report that the plant was evacuated in [REDACTED]. [REDACTED] photography shows no apparent plant operations or construction. Resupply of machinery reportedly began in early 1946, and by [REDACTED] the plant was reported to be 80 percent "rebuilt." 1/ [REDACTED] photography of the plant, obtained on [REDACTED] was of fair interpretability and is presented on Figure 7 for purposes of comparison with the 1942 and 1967 coverage. The 1956 photography reveals little new construction, but it does show that extensive renovation had been accomplished on the heat treatment and fabrication/assembly building (item 60) and on the machine shop and fabrication building

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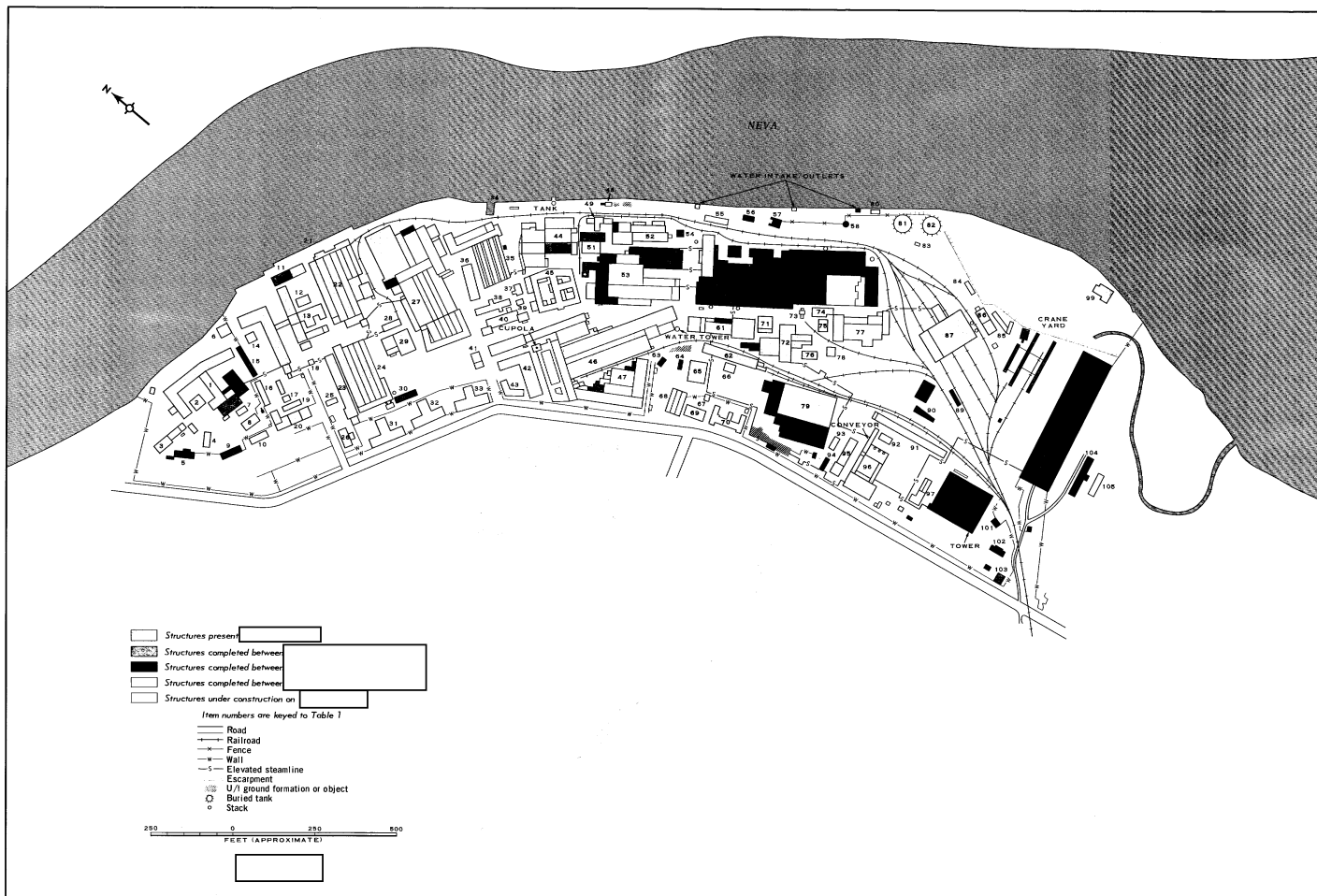


FIGURE 2. LAYOUT OF THE LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232.

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Table 1. Functions, Dimensions, and Construction Chronology of Structures in Leningrad Armaments and Tank Plant Bolshhevik 232
(Item numbers are keyed to Figure 2)

* Greatest overall dimension of an irregularly shaped bug.
**Complete when first observed unless otherwise stated in Explanatory Notes.

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FIGURE 3. Leningrad Armaments and Tank Plant Bolshevik 232

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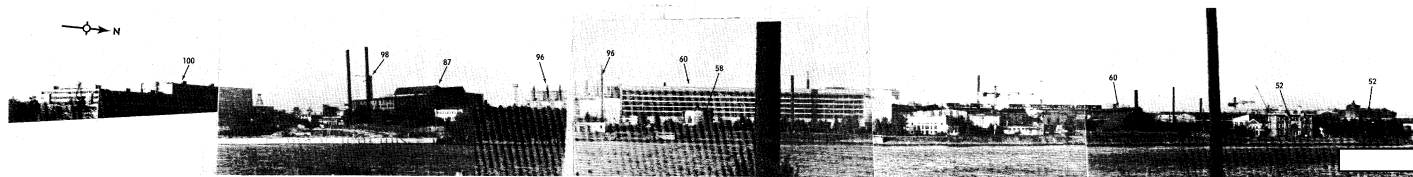


FIGURE 4. PHOTOGRAPHIC MOSAIC OF LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232 VIEWED FROM THE EAST ACROSS THE NEVA RIVER, (Item numbers are keyed to Figure 2 and Table 1.)

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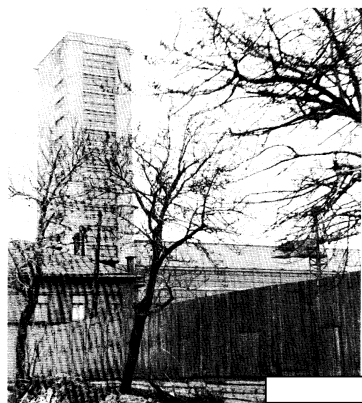


FIGURE 5. POSSIBLE CHECKOUT TOWER OF THE PROBABLE FABRICATION/ASSEMBLY BUILDING VIEWED FROM THE SOUTH (See item 98, Figures 2 and 4.)

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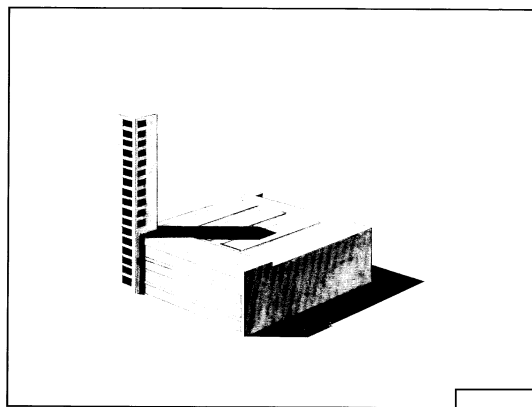


FIGURE 6. PERSPECTIVE DRAWING OF THE PROBABLE FABRICATION/ASSEMBLY BUILDING WITH A POSSIBLE CHECKOUT TOWER. (See item 98, Figure 2.)

tower (item 98) and on the probable assembly building (item 100). An area of low ground in the southeastern corner of the plant had been annexed by 1964.

The first [redacted] photography interpretable for the purposes of plant analysis was obtained on [redacted] although the plant had been covered by 4 previous [redacted] missions, beginning in [redacted] Ground photography obtained on [redacted] and [redacted] has been used to supplement [redacted] coverage of items 60, 98, and 100.

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1965

Renovations were completed on the machine shop and fabrication building (item 53), and a bay was apparently added to a probable rolling mill complex (item 46). Reconstruction of a bay in the southwest portion of the heat treatment and fabrication/assembly building (item 60) began during this period.

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(item 53), both in the east-central portion of the plant. The support area at the northern extreme of the plant area (comprising items 1 through 10) was probably annexed during this period.

1957 - 1964

The greatest amount of new construction and renovation occurred during this period. The machine shop and fabrica-

tion building (item 53) underwent further renovation, and the heat treatment and fabrication/assembly building (item 60) also underwent further renovation as well as additions. The roof area of a probable foundry (item 79) was more than doubled with the construction of additional bays. Construction began and was apparently completed on the probable fabrication/assembly building with a possible checkout/assembly

1966 - 1967

No new construction was apparent during this period. Reconstruction continued on the bay in the southwest portion of the heat treatment and fabrication/assembly building (item 60).

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FIGURE 7. LENINGRAD ARMAMENTS AND TANK BOLSHEVIK 232.

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FIGURE 8. LENINGRAD ARMAMENTS AND TANK PLANT BOLSHIEV 232

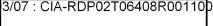
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REFERENCES



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Ground Photography

- DOD. [redacted] 13 May 66, prints 1-3 (30 Apr 66) (CONFIDENTIAL) [redacted]
DOD. [redacted] 28 Oct 65, prints B1-B9 (2 Oct 65) (SECRET) [redacted]
DOD. [redacted] 14 Oct 65, prints A1-A9 & B1-B9 (2 Oct 65) (CONFIDENTIAL) [redacted]
DOD. [redacted] 31 Oct 63, prints ONI:R424-036 through 039 (29 Jul 63) (SECRET)
CIA. Accession No 541306, 12-14 Jun 63 (SECRET)
CIA. Accession No 536730, 6 Nov 61 (SECRET)

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MAPS OR CHARTS

US Air Target Chart, Series 200, Sheet 0153-4

DOCUMENTS

1. NSA. [redacted] Available Information on Factory No. 232, Ministry of the Defense Industry, at Leningrad, pp. 3-5, 2 Jun 64 (TOP SECRET)
[redacted]
2. NSA. [redacted] Some Details of Factory No. 232 at Leningrad, and its Vladivostok Branch, of the Ministry of Armaments, USSR, p. 4, 2 Jun 64 (TOP SECRET) [redacted]
3. NSA. [redacted] Evidence of the Involvement of Plant 232, Leningrad, in Production for the Soviet Guided Missile Program, 14 Aug 65 (TOP SECRET) [redacted]

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REQUIREMENT

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